

You, Me & SVG!



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This course will answer these questions:

- What are SVGs?
- When you should use SVGs over raster images?
- How do you build SVGs?
- How do you use SVG elements together to build icons or other images?

Prerequisites for this course include a working knowledge of HTML and CSS.



Level 1

Oh, the Shapes You Can Make

Section 1 – SVG Fun

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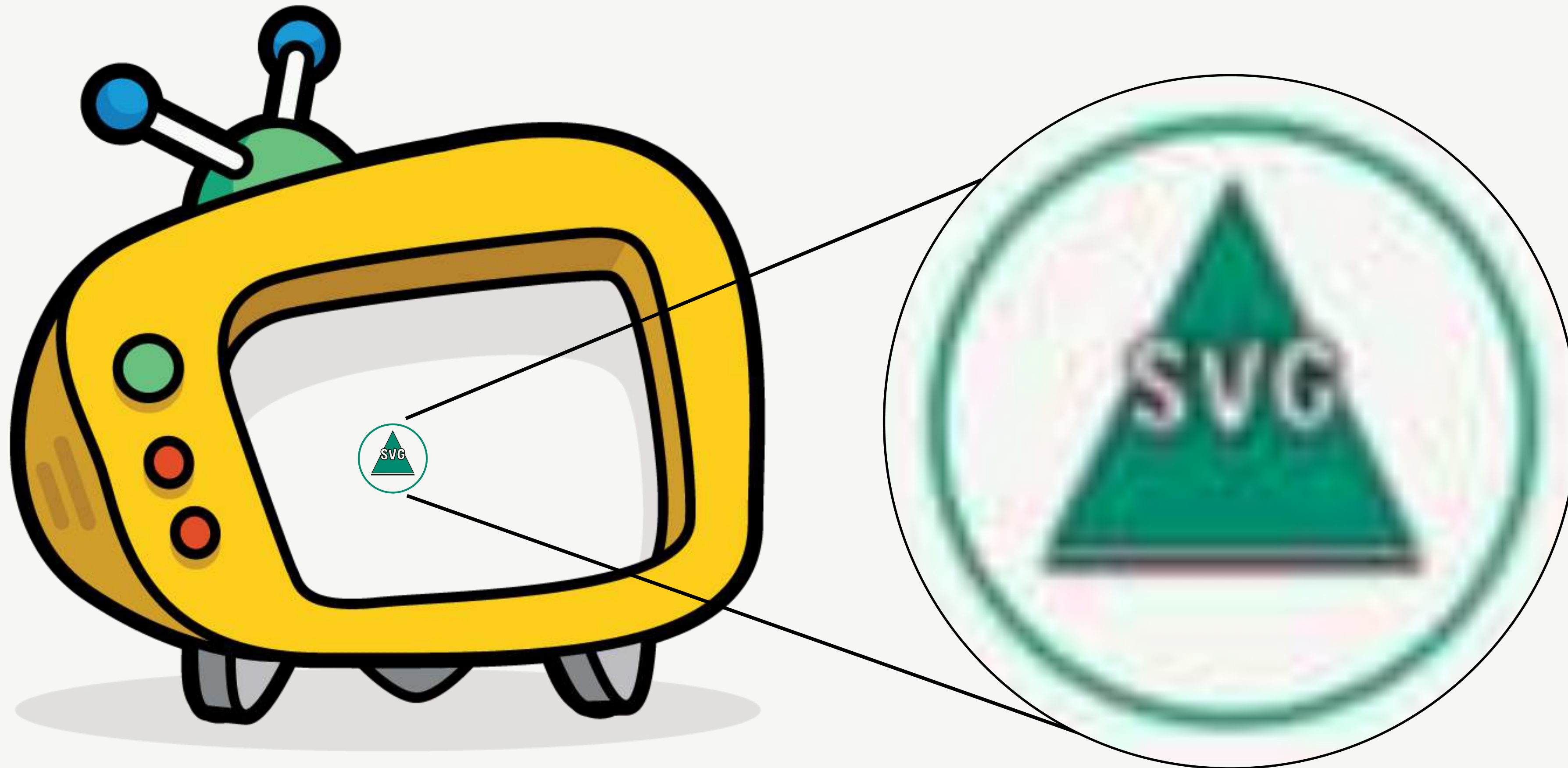


Welcome to Schmuffle Land!



All-New X59 Retina Screen

How does the badge look on the X59 Retina screen?



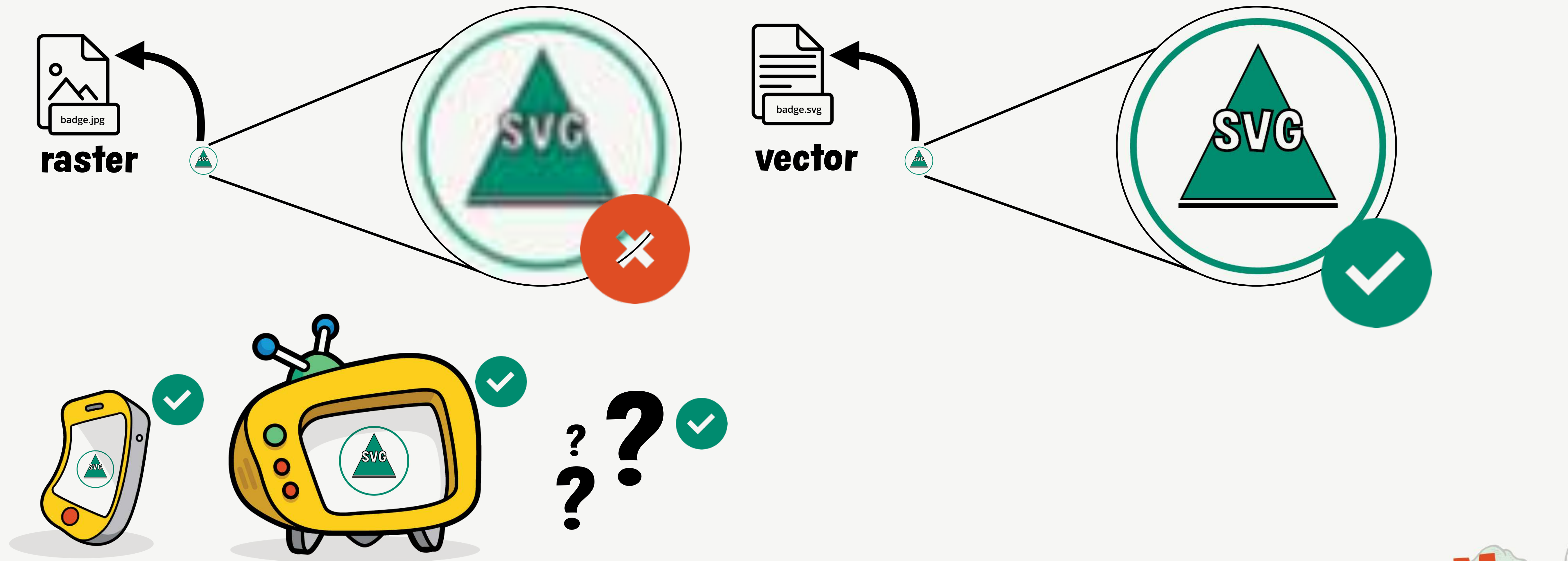
90,000px x 60,000px

ICK, it's blurry!



Scalable Vector Graphics FTW

Raster images don't work for every size screen. Future-proof your assets by using SVG!



Our SVG will also work for any future size screens — even ones the size of Schmuffle Land itself!



Including SVG as `` Source

A common way to use SVGs is to treat them like any other file type and include them with an `img` tag.

index.html

```
<!DOCTYPE html>
<html>
  <head>...</head>
  <body>
    <h1>My First SVG</h1>
    <img src='our_first.svg'>
  </body>
</html>
```

**How do we actually
create an SVG, though?**

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Creating Our First SVG Element

Let's jump right into an SVG file and create our own.

```
our_first.svg
```

```
<svg>
```

```
</svg>
```

The first step is to use the SVG element.

This looks similar to HTML tags because both HTML and SVG are types of XML.



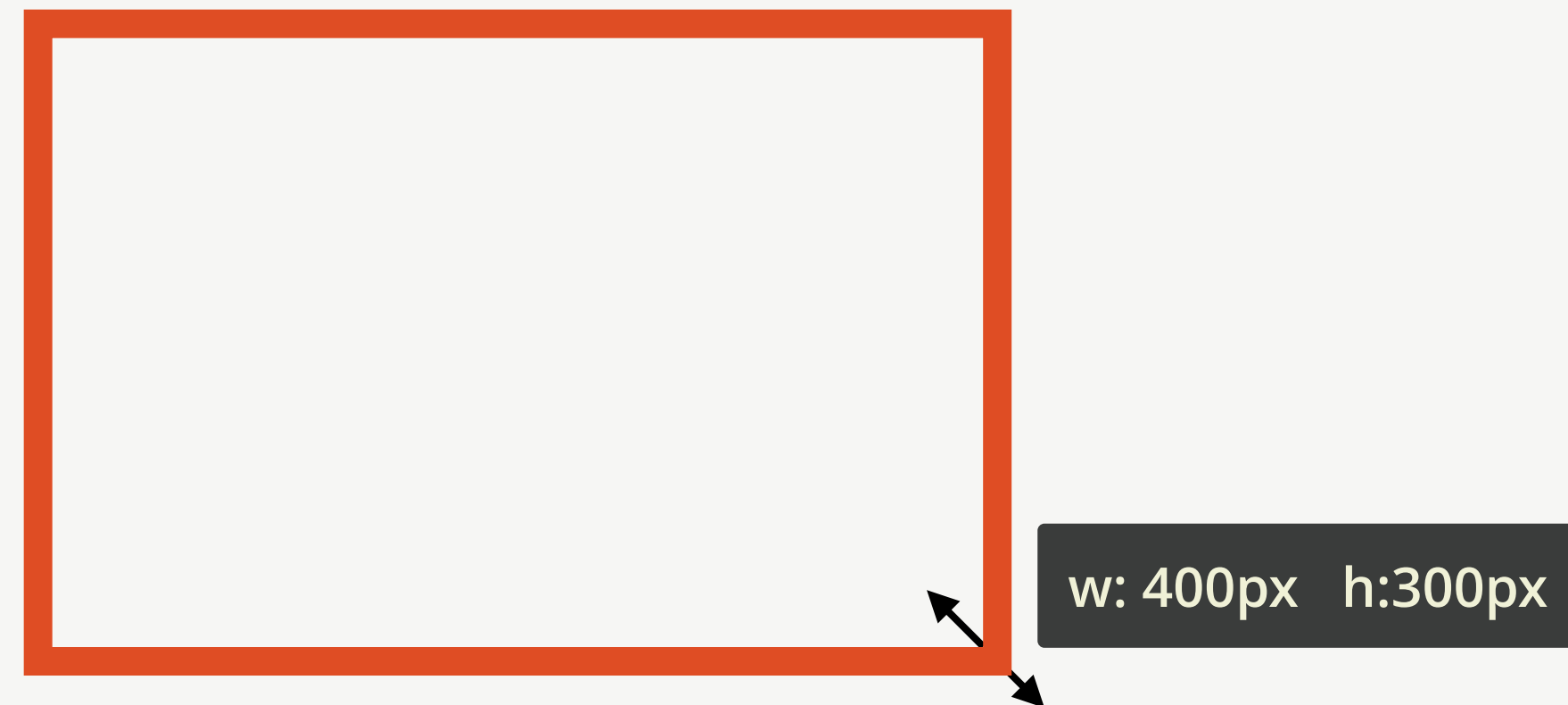
Setting the SVG's Viewport Size

We are going to set the window through which the SVG will be visible. This frame or canvas we draw our SVG on is called the viewport.

our_first.svg

```
<svg height="300" width="400" >  
</svg>
```

Setting width and height of the viewport



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Specifying SVG Namespace and Version

We need to tell the browser that we are going to be using a different version of XML, with non-HTML tags, and *what* version of SVG we are going to use.

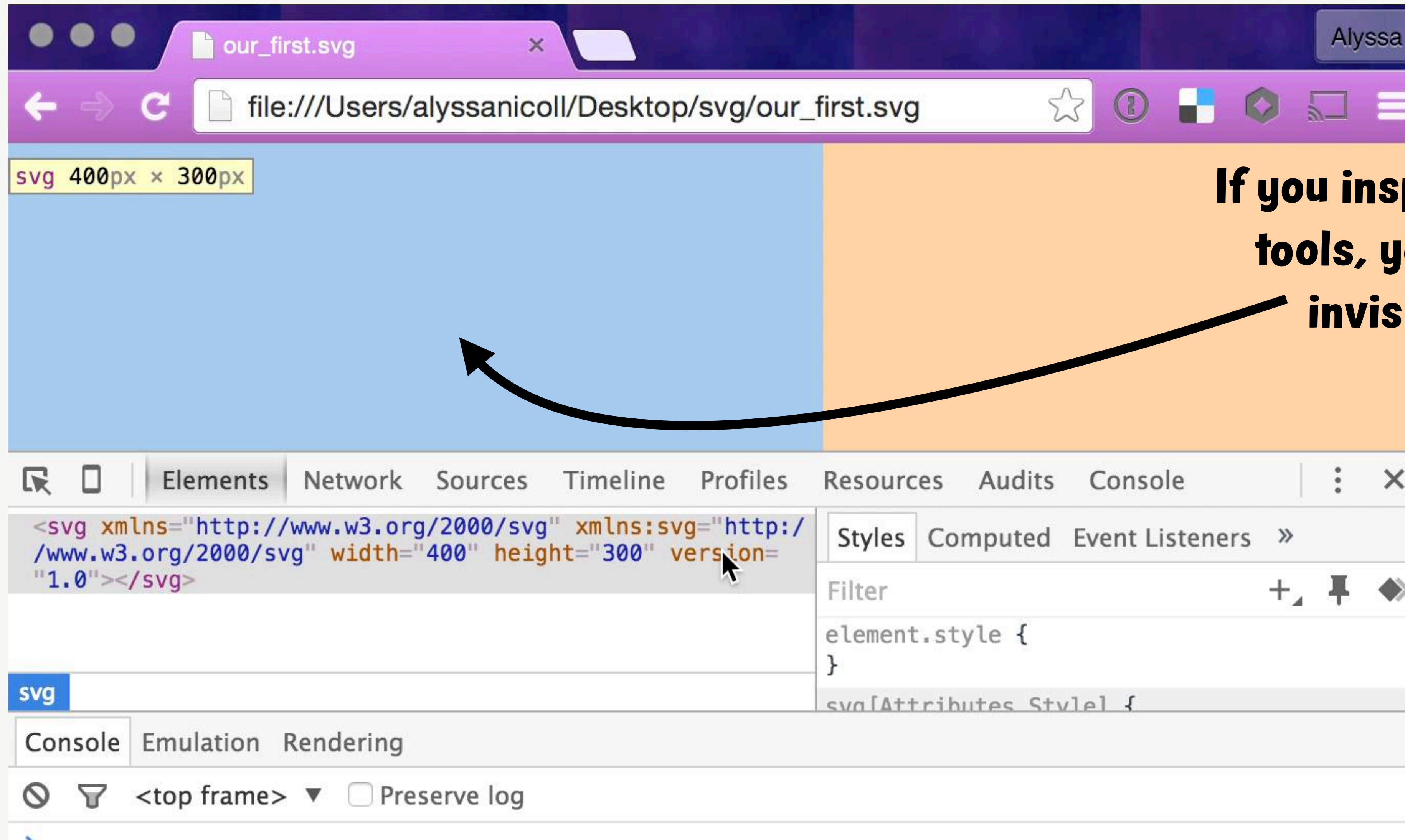
our_first.svg

```
<svg height="300"  
      width="400"  
      xmlns="http://www.w3.org/2000/svg"  
      version="1.1">  
</svg>
```

**These long scary lines just tell the browser:
Hey, we are about to use some SVG tags here,
so get ready to draw!**

Loading Our SVG in the Browser

Our canvas is now there, but we haven't drawn anything on it.



If you inspect and use dev tools, you can see our invisible canvas.

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Ready to Start Building an Icon Now!

Let's build out the X59 icon in SVG elements for the Schmuffle folk.



=



**This is the simplified version of
the X59 Retina screen!**

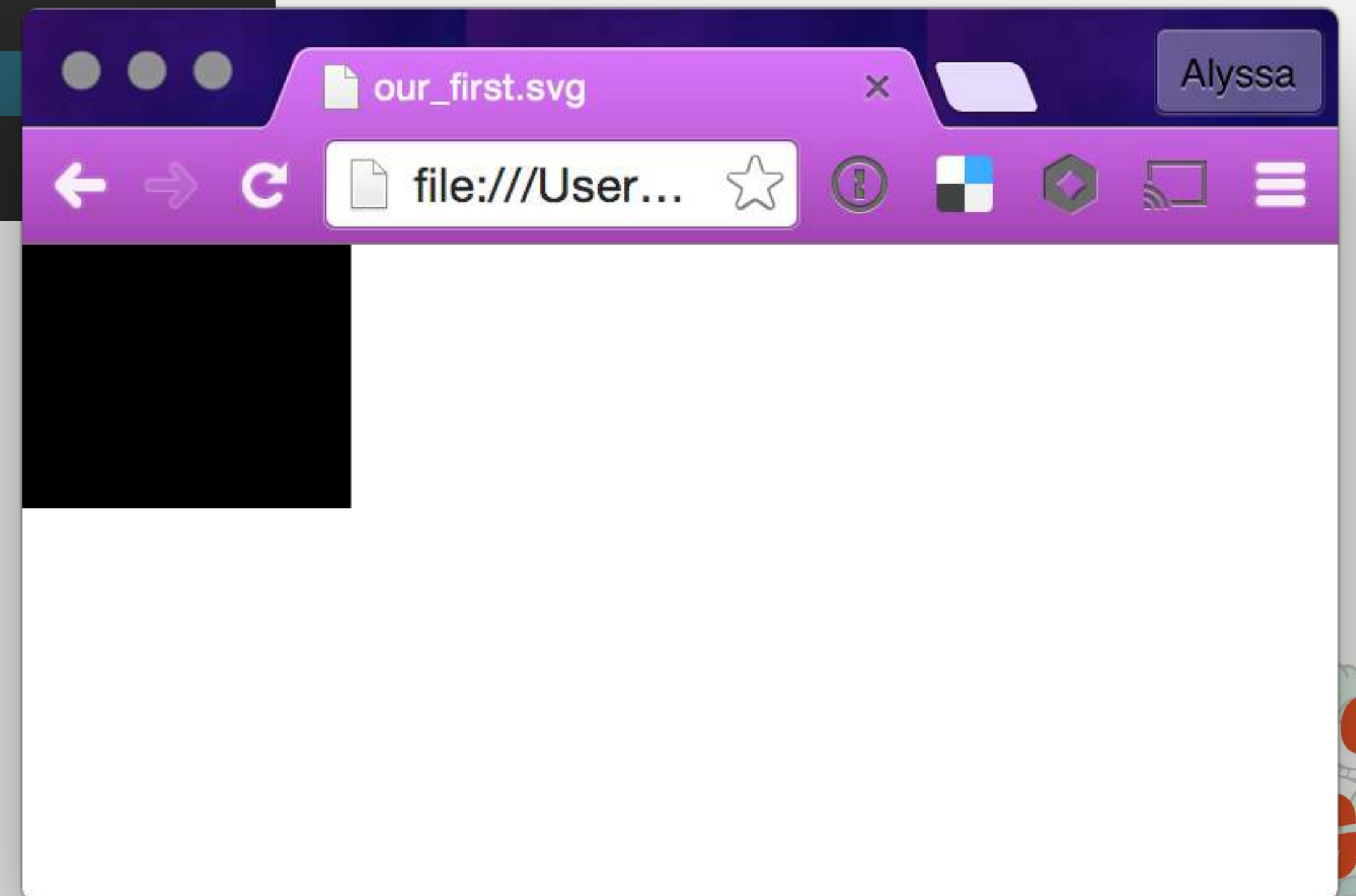
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Drawing Our First Rectangle

The `<rect>` tag allows us to draw rectangles on our SVG canvas.

our_first.svg

```
<svg height="300"  
      width="400"  
      xmlns="http://www.w3.org/2000/svg"  
      version="1.1">  
  <rect height="80" width="100"/>  
</svg>
```



Adding a Second Rectangle

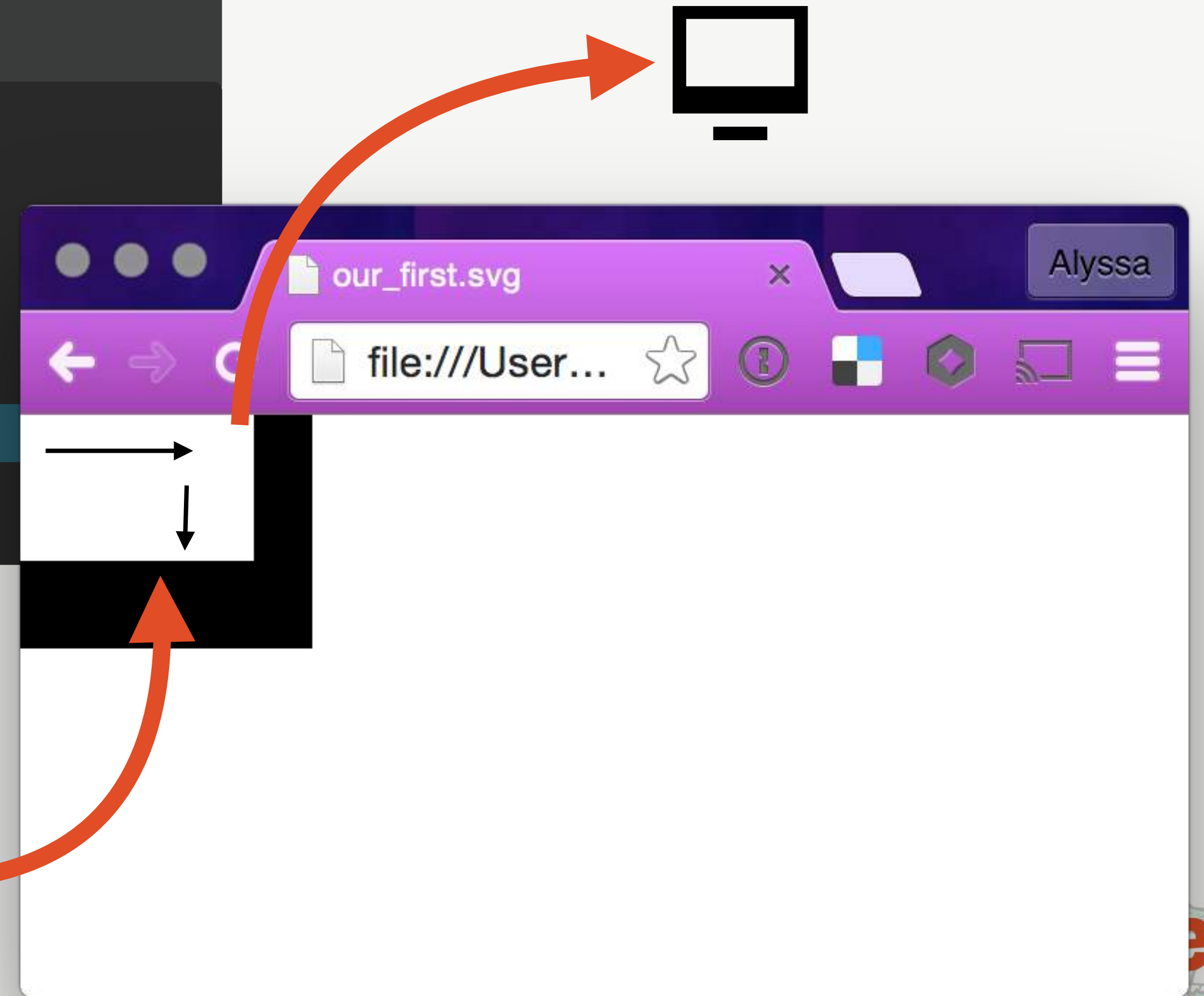
We will create a second `rect`, but this one will have a white background.

our_first.svg

```
<svg height="300"
      width="400"
      xmlns="http://www.w3.org/2000/svg"
      version="1.1">
  <rect height="80" width="100"/>
  <rect height="50" width="80" fill="white"/>
</svg>
```

Fill is used to give background color.

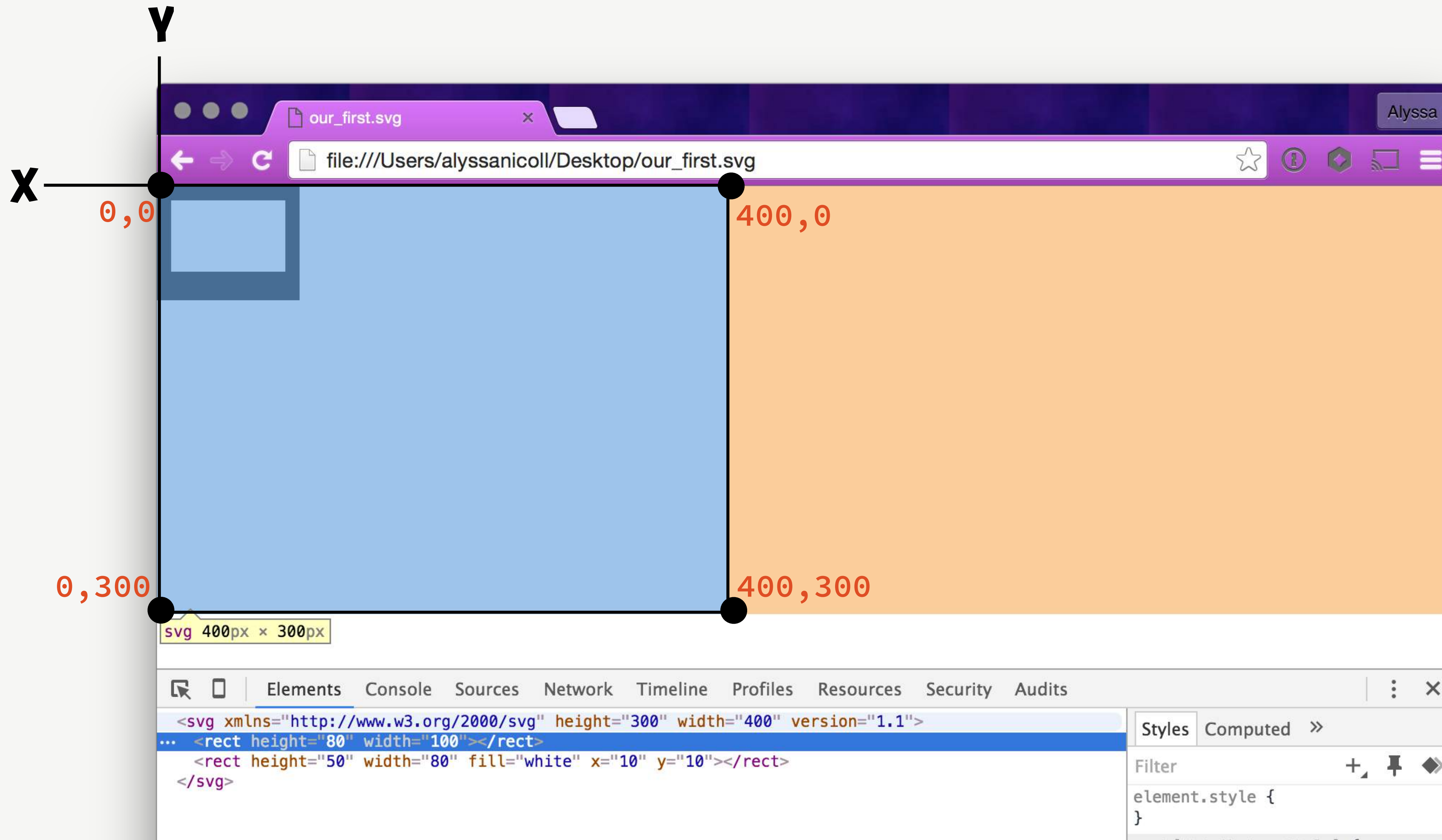
**How do we move this top white
rect, though?**



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Understanding Viewport Coordinate System

Right now, our rectangles are being drawn at 0,0. They are anchored to their top left point.

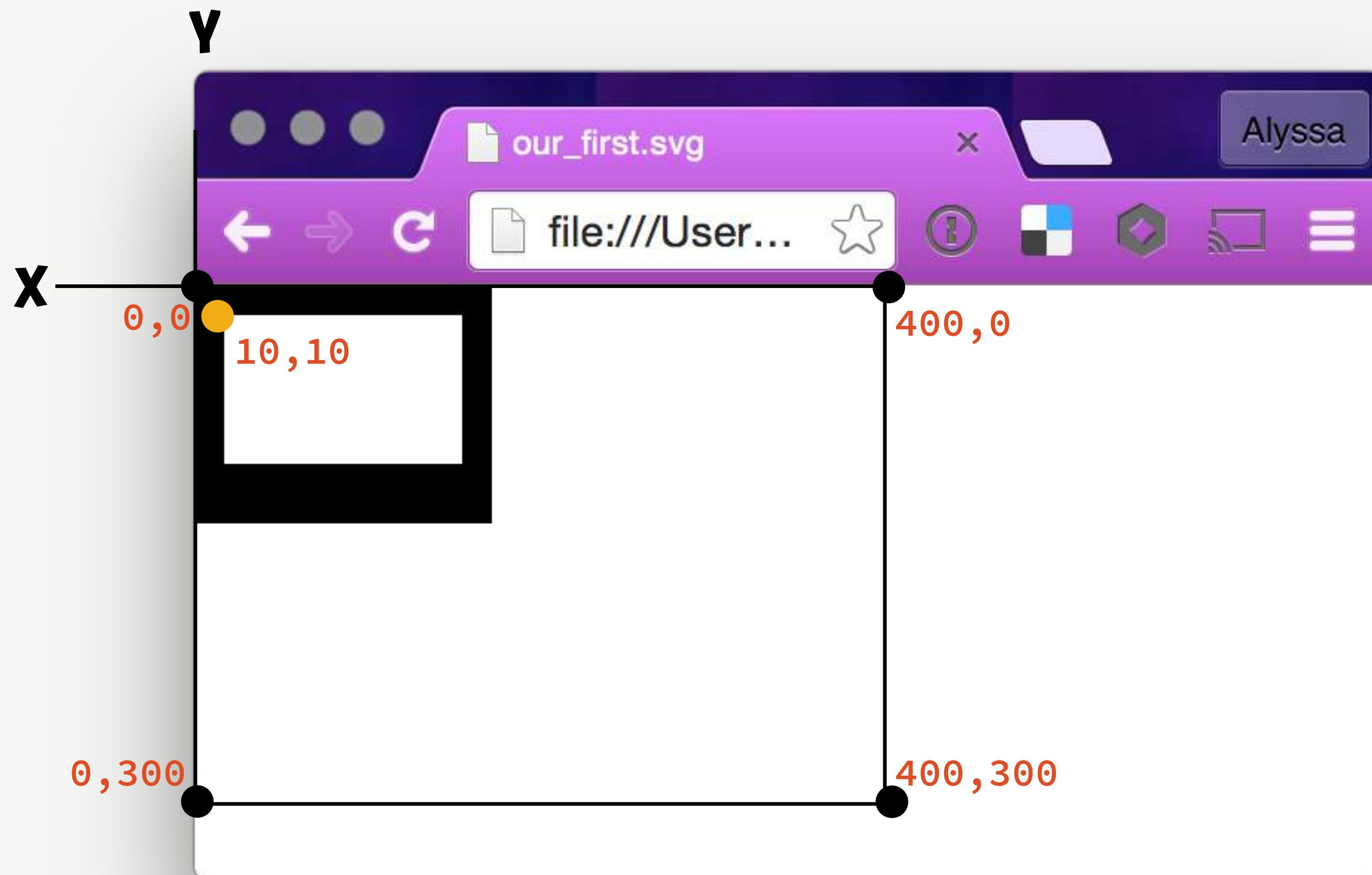


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Moving the White Rectangle

We need to specify a new anchor point for our white rectangle.

```
<rect height="50" width="80" fill="white" x="10" y="10"/>
```

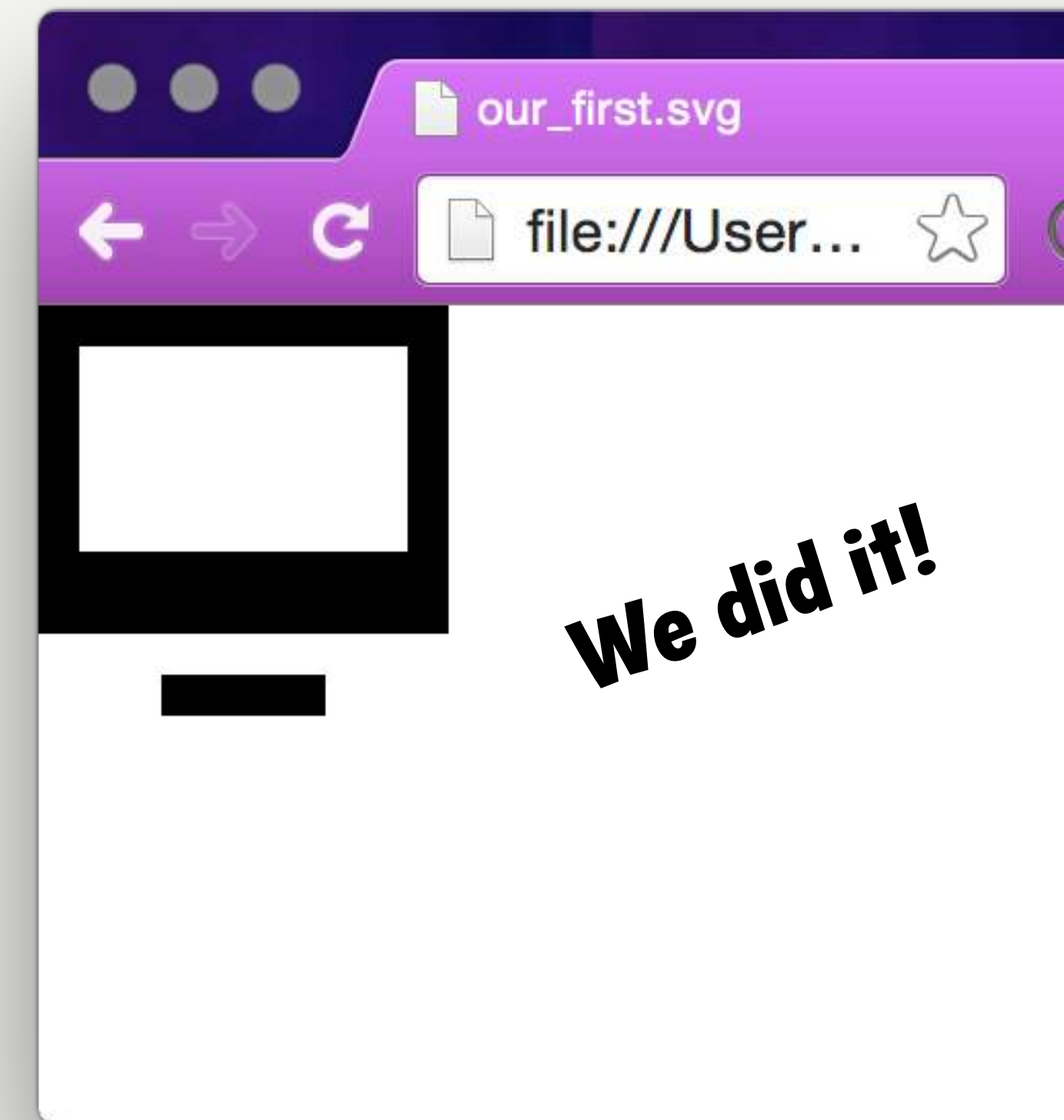


Creating One Last Rect to Finish the Icon

We will create one more rectangle below the other two. This will be the base of the X59 screen icon.

our_first.svg

```
<svg height="300"  
      width="400"  
      xmlns="http://www.w3.org/2000/svg"  
      version="1.1">  
  <rect height="80" width="100"/>  
  <rect height="50" width="80" fill="white" x="10" y="10"/>  
  <rect height="10" width="40" x="30" y="90"/>  
</svg>
```



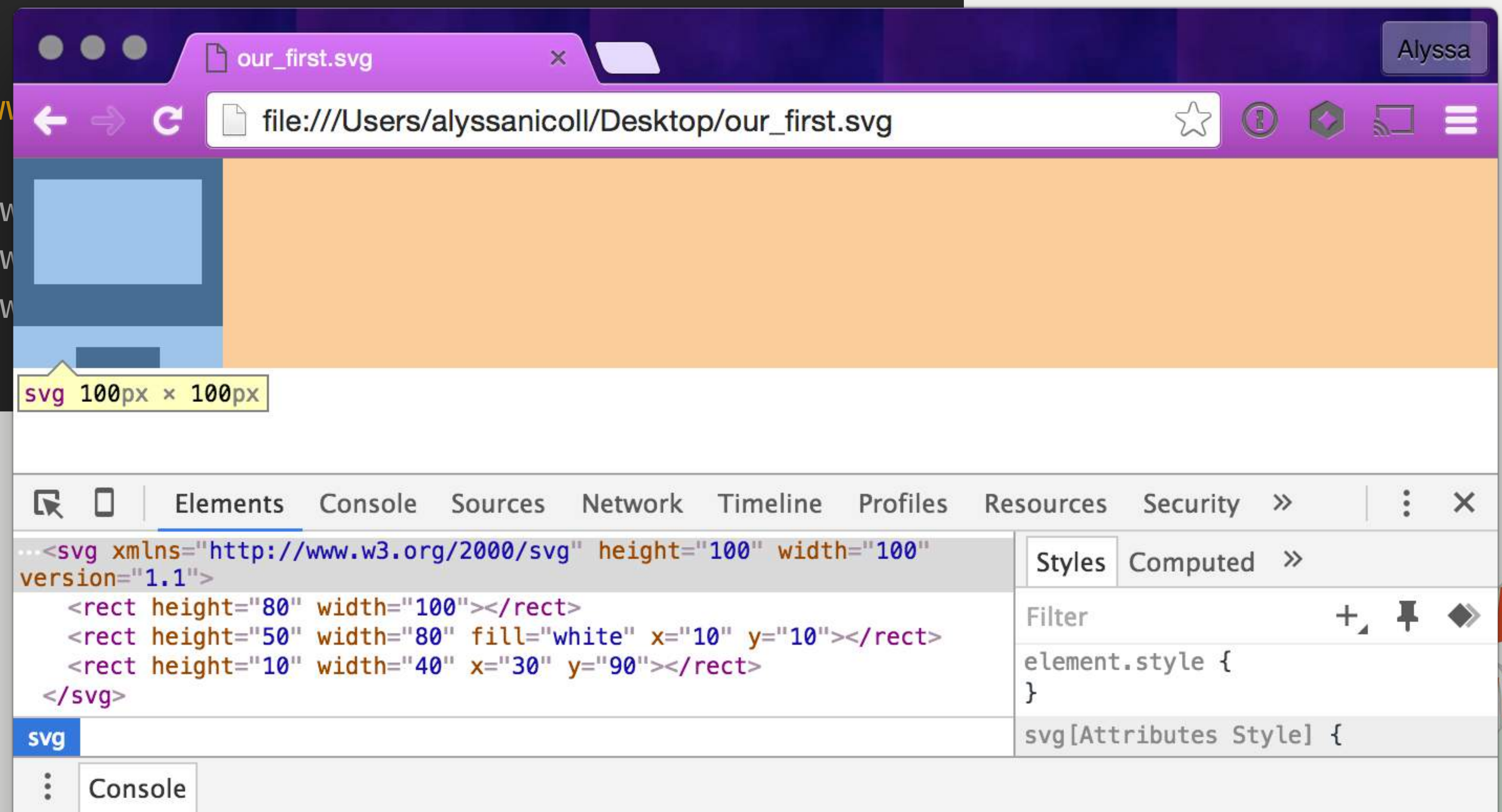
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Adjusting Our Viewport

We want our icon to be 100px by 100px. Let's modify our viewport to this size!

our_first.svg

```
<svg height="100"  
width="100"  
xmlns="http://www.w3.org/2000/svg"  
version="1.1">  
  <rect height="80" width="100" fill="white" />  
  <rect height="50" width="80" fill="white" x="10" y="10" />  
  <rect height="10" width="40" fill="white" x="30" y="90" />  
</svg>
```



Challenges

